

forming a shared table [containing] comprising said plurality of duplicated elements;

removing said duplicated elements from said plurality of class files to [create] obtain a plurality of reduced class files; and

forming a multi-class file comprising said plurality of reduced class files and said shared table.

~~2. (not amended) The method of claim 1, further comprising:
computing an individual memory allocation requirement for each of said plurality of reduced class files;
computing a total memory allocation requirement for said plurality of class files from said individual memory allocation requirement of each of said plurality of reduced class files; and
storing said total memory allocation requirement in said multi-class file.~~

Please add the following new claims 3-23.

--3. The method of claim 2, further comprising:
reading said total memory allocation requirement from said multi-class file;
allocating a portion of memory based on said total memory allocation requirement; and
loading said reduced class files and said shared table into said portion of memory.--

--4. The method of claim 3, further comprising:
accessing said shared table in said portion of memory to obtain one or more elements not found in one or more of said reduced class files.--

--5. The method of claim 1, wherein said step of determining a plurality of duplicated elements comprises:
determining one or more constants shared between two or more class files.--

--6. The method of claim 5, wherein said step of forming a shared table comprises:

A2 forming a shared constant table comprising said one or more constants shared between said two or more class files.--

--7. A computer program product comprising:
a computer usable medium having computer readable program code embodied therein for pre-processing class files, said computer program product comprising:

computer readable program code configured to cause a computer to determine a plurality of duplicated elements in a plurality of class files;

computer readable program code configured to cause a computer to form a shared table comprising said plurality of duplicated elements;

computer readable program code configured to cause a computer to remove said duplicated elements from said plurality of class files to obtain a plurality of reduced class files; and

computer readable program code configured to cause a computer to form a multi-class file comprising said plurality of reduced class files and said shared table.--

--8. The computer program product of claim 7, further comprising:
computer readable program code configured to cause a computer to compute an individual memory allocation requirement of each of said plurality of reduced class files;

72 computer readable program code configured to cause a computer to compute a total memory allocation requirement of said plurality of class files from said individual memory allocation requirement of each of said plurality of reduced class files; and

computer readable program code configured to cause a computer to store said total memory allocation requirement in said multi-class file.--

--9. The computer program product of claim 8, further comprising:
computer readable program code configured to cause a computer to read said total memory allocation requirement from said multi-class file;
computer readable program code configured to cause a computer to allocate a portion of memory based on said total memory allocation requirement; and

computer readable program code configured to cause a computer to load said reduced class files and said shared table into said portion of memory.--

--10. The computer program product of claim 9, further comprising:
computer readable program code configured to cause a computer to access said shared table in said portion of memory to obtain one or more elements not found in one or more of said reduced class files.--

--11. The computer program product of claim 7, wherein said computer readable program code configured to cause a computer to determine said plurality of duplicated elements comprises:

computer readable program code configured to cause a computer to determine one or more constants shared between two or more class files.--

--12. The computer program product of claim 11, wherein said computer readable program code configured to cause a computer to form said shared table comprises:

computer readable program code configured to cause a computer to form a shared constant table comprising said one or more constants shared between said two or more class files.--

--13. An apparatus comprising:

a processor;

a memory coupled to said processor;

a plurality of class files stored in said memory;
a process executing on said processor, said process configured to form a multi-class file comprising:

a plurality of reduced class files obtained from said plurality of class files by removing one or more elements that are duplicated between two or more of said plurality of class files; and
a shared table comprising said duplicated elements.--

--14. The apparatus of claim 13, wherein said multi-class file further comprises a memory requirement, said memory requirement being computed by said process.--

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--15. The apparatus of claim 13, wherein said duplicated elements comprise elements of constant pools of respective class files, said shared table comprising a shared constant pool.--

--16. The apparatus of claim 13, further comprising:
a virtual machine having a class loader and a runtime data area, said class loader configured to obtain and load said multi-class file into said runtime data area.--

--17. The apparatus of claim 16, wherein said class loader is configured to allocate a portion of said runtime data area based on said memory requirement in said multi-class file.--

--18. The apparatus of claim 17, wherein said class loader is configured to load said plurality of reduced class files and said shared table into said portion of said runtime data area.--

--19. The apparatus of claim 16, wherein said virtual machine is configured to access said shared table when a desired element associated with a first class file is not present in a corresponding one of said plurality of reduced class files.--

--20. A memory configured to store data for access by a virtual machine executing in a computer system, comprising:

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a data structure stored in said memory, said data structure comprising:

a plurality of reduced class files associated with a plurality of corresponding classes, said plurality of reduced class files configured to be loaded by the virtual machine for execution of said plurality of classes;

a shared table comprising one or more elements that are duplicated between two or more of said plurality of classes, said shared table configured to be loaded into the virtual machine to be accessed for said duplicated elements; and

a memory requirement value configured to be read by a class loader of the virtual machine to allocate a portion of a runtime data area for loading said plurality of reduced class files and said shared table.--

--21. The memory of claim 20, wherein said duplicated elements are removed from said plurality of reduced class files.--

42 --22. The memory of claim 20, wherein said duplicated elements comprise constants and said shared table comprises a shared constant pool.--

--23. The memory of claim 20, wherein said memory requirement value is computed from individual memory requirements of said plurality of reduced class files and a memory requirement of said shared table.--
